PUBLIC HEALTH ACT

(11 & 12 Vict. Cap. 63.)

REPORT

TO THE

GENERAL BOARD OF HEALTH

ON A

PRELIMINARY INQUIRY

INTO THE SEWERAGE, DRAINAGE, AND SUPPLY OF WATER, AND THE SANITARY CONDITION OF THE INHABITANTS

OF THE BOROUGH OF

NEWBURY,

IN THE COUNTY OF BERKS.

By WILLIAM LEE, Esq.,

SUPERINTENDING INSPECTOR.

LONDON:

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PRINTERS TO THE QUEEN'S MOST EXCELLENT MAJESTY.

FOR HER MAJESTY'S STATIONERY OFFICE.

[20] 1852.

NOTIFICATION.

THE General Board of Health hereby give notice, in terms of section 9th of the Public Health Act, that on or before the 7th day of June next, being a period of not less than one month from the date of the publication and deposit hereof, written statements may be forwarded to the Board with respect to any matter contained in or omitted from the accompanying Report on a preliminary Inquiry into the Sewerage, Drainage, and Supply of Water, and the Sanitary Condition of the Inhabitants of the Borough of NEWBURY, in the County of Berks; or with respect to any amendment to be proposed therein.

By order of the Board,
HENRY AUSTIN, *Secretary.*

Whitehall, 23d April 1852.

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PUBLIC HEALTH ACT (11 & 12 Vict. c. 63.)

Report to the General Board of Health on a Preliminary Inquiry into the Sewerage, Drainage, and Supply of Water, and the Sanitary Condition of the Inhabitants of the Borough of NEWBURY, *in the County of Berks.* By WILLIAM LEE, Esq., C.E., Superintending Inspector.

9, *Duke Street, Westminster,*
26th December 1851.

MY LORDS AND GENTLEMEN,

THE inhabitants of the borough of Newbury in the county of Berks having petitioned that you would direct a Superintending Inspector to make a Preliminary Inquiry there, with a view to the application of the Public Health Act, you were pleased to direct me to make such inquiry, and to report to you in writing.

The following is the purport of the petition in question :—

"Whereas, by the Public Health Act, 1848, it is enacted that, from time to time, after the passing of that Act, upon the petition of not less than one tenth of the inhabitants rated to the relief of the poor of any city, town, borough, parish, or place, having a known or defined boundary, not being less than thirty in the whole, the General Board of Health may, if and when they shall think fit, direct a superintending inspector to visit such city, town, borough, parish, or place, and to make public inquiry, and to examine witnesses as to the sewerage, drainage, and supply of water, the state of the burial-grounds, the number and sanitary condition of the inhabitants, and as to any Local Acts of Parliament in force within such city, town, borough, parish, or place, for paving, lighting, cleansing, watching, regulating, supplying with water, or improving the same, or having relation to the purposes of the said Act; also as to the natural drainage areas, and the existing municipal, parochial, or other local boundaries, and the boundaries which may be most advantageously adopted for the purposes of the said Act, and as to any other matters in respect

whereof the said Board may desire to be informed for the purpose of enabling them to judge of the propriety of reporting to Her Majesty, or making a Provisional Order, as mentioned in the said Act.

Now, therefore, we the undersigned inhabitants of the borough, town, and parish of Newbury in the county of Berks, and rated to the relief of the poor of and within the same borough, town, and parish, do hereby petition the General Board of Health to direct a superintending inspector to visit the said borough, town, and parish, and to make inquiry and examination with respect thereto, with a view to the application of the said Act, according to the provisions of the said Act in that behalf.

(Signed) "H. Binney, *D C.L., Rector.*
"Wm. Dredge, *Mayor.*"
(And 199 others.)

After having given the notice required by the Public Health Act, I proceeded to Newbury ; and the inquiry was opened in the Town-hall there at ten o'clock on the morning of Wednesday the 30th day of April last, and continued by adjournment, from day to day, until I had heard all persons desirous of being heard before me, had obtained the evidence necessary for this Report, and carefully inspected the whole of the borough.

Mr. *Charles Wheeler*, of the Town Clerk's office, proved that the public notices of the inquiry had been duly affixed upon the doors of all churches and chapels, and other places within the borough where public notices are usually affixed, and produced a certified copy of the same. Copies of the newspapers circulating in the district were also put in, containing the advertisement of the inquiry.

At the first meeting, and indeed throughout the whole of the inquiry, I was attended by a considerable number of the inhabitants, including members of the Town Council and Commissioners under the Local Act of Parliament. The following accompanied me during my inspection of the borough, and rendered me important assistance :—William Dredge, Esq., Mayor ; Edward William Gray, Esq., J.P. ; Henry Bunny, Esq., Town Clerk ; Henry Shirley, Esq., surgeon ; Mr. Robert Martin ; Mr. Joseph Toomer ; Mr. John Mason ; Mr. James Roake ; Mr. R. A. Ryott, Surveyor of the Marsh ; Mr. James Asprey ; Mr. Henry Hopson ; and Mr. Alfred Milsom, Superintendent of Police.

At the opening of the inquiry, after the formal proofs, I followed the usual course of explaining the provisions of the Public Health Act, the great powers for good that it would confer on the Town Council as Local Board of Health ;

and invited a free discussion as to the applicability of those provisions and powers to the special circumstances of Newbury. Many questions were asked,—nearly all of which I was able to answer; and I have reason to believe that in this way much misapprehension was removed from the minds of some of those present.

Robert Fuller Graham, Esq., clerk to the Improvement Commissioners, said he had received no instructions from that body to offer any opposition to the inquiry; and, as far as he was individually concerned, he should offer none. He was anxious that a thorough system of drainage should be carried out; and if the Public Health Act should be applied, he would take care, as far as his influence extended, that it should be done.

I feel it right to say that Mr. Graham placed at my disposal Mr. Beckhuson, his managing-clerk, from whom I derived most of my information as to the government of the town by the Commissioners for Paving, &c.

Mr. *John Mason* asked, whether he could see the petition praying for the inquiry, and said that his only motive was curiosity. I replied that I did not think it necessary that mere curiosity should be gratified, when the consequences might be prejudicial to some of the poorer petitioners.

I felt it my duty, however, to ascertain whether or not the petition was valid; and am able to report that it is signed by nearly one sixth of the rated inhabitants, instead of one tenth only.

Mr. Mason then put in a copy of a resolution passed a few days previously at a public meeting of the inhabitants, convened by the Mayor, in pursuance of a resolution of the Improvement Commissioners. The Mayor was not present at the public meeting; but his evidence in favour of the application of the Public Health Act will appear in a subsequent part of this Report. Dr. Binney, the rector, having, as chairman of the meeting, officially communicated the following statement of the proceedings, it is unnecessary that I should also quote the resolution as put in by Mr. Mason.

"Newbury Improvement Act.

"The following copy of a resolution having been received by the Mayor from the Clerk to the Newbury Commissioners:—

"That the Mayor be requested to convene a public meeting of the inhabitants of Newbury, on Saturday next, the 26th instant, at two o'clock P.M., to take the sense of the inhabitants upon, and to consider and determine what measures should be taken, with

reference to the notice from the General Board of Health (dated the 10th April 1851) of their intended inquiry under the Public Health Act, 1848, with a view to the application of that Act to this borough :—

"I do hereby convene a meeting of the inhabitants of Newbury, to be held at the New Town-house, on Saturday the 26th instant, at two o'clock P.M., to take into consideration the above resolution, and to adopt such measures as they may consider requisite.

(Signed) "W. DREDGE, *Mayor.*"

"Dr. Binney was called to the chair, and it was resolved :—

"'That this meeting being fully convinced, that if the Public Health Act be brought into operation within this borough, the rates will be increased to a very considerable amount above the expenditure already incurred by the present Local Commissioners; this meeting resolves, That a memorial be presented to the General Board of Health, requesting that this town may not be put under the operation of the Public Health Act.'

"Though I entirely dissent from the above request, judging that under existing circumstances, there is no probability of terminating the conflicting opinions and discord which pervade the town, I feel bound, having been called to the chair, to certify that at a meeting of from thirty to forty inhabitants, assembled in pursuance of the within notice, the above resolution was carried by a show of thirty hands held up in its favour.

(Signed) "H. BINNEY, *D.C.L.*,
"*Rector of Newbury.*"

I am not aware that any memorial in pursuance of the above resolution has been presented to your Honourable Board.

Having stated to the inhabitants that it would be my duty to proceed with the inquiry, but that I should lay before you the minutes which had been handed to me, I requested that those present would name any localities to which they wished to direct my special attention, and that these would be examined during the inspection of the town. The following are among the complaints thus recorded.

COMPLAINTS OF INJURIOUS NUISANCES.—Mr. *John Mason* named a very obnoxious open drain between Speenhamland and Newbury. There is a house over it, the inhabitants of which have had fever.

Mr. *Joseph Toomer* complained of the Independent chapel burying-ground. He stated that the drainage was bad, that the ground was offensive, and that there was a great number of houses with only one pump. Mr. *William Shaw* replied, that there is an underground drain there, and not more than twenty houses to one pump.

Mr. *Robert Atkinson Ryott* complained of the Marsh ditch at the back of the houses on the east side of North Brook-street. In the summer time there are emanations that are likely to be pestilential, and privies are allowed to run into the brook. He also complained of Marsh-lane.

Mr. *Graham* directed attention to the surface drainage in Bartholomew-street and the city.

Mr. *Mason* complained of the same places, and of North Brook-street; saying, that the drainage was insufficient to carry off the filth. He also complained of the condition of the churchyard.

Mr. *R. Martin* complained of the Rose and Thistle yard, where there was a dungheap, nuisances, and bad drainage; also of the imperfect drainage in Mayor's-lane and Cheap-street.

Mr. *James Asprey* complained of a place on the Wash-road, where manure is manufactured out of night-soil, and of a heap of manure, &c., belonging to the Commissioners, near the New Town-road, which, he stated, was very offensive at times.

Henry Godwin, Esq., solicitor, complained of the filthy state of the Hatchet-yard in the Market-place.

Mr. *J. Roake* complained of the existence of filth for want of drainage in the Whitehall-yard in Bartholomew-street; also, that there are cottages in Old New Town-road without any water supply or privies.

Mr. *Samuel Coxeter* complained of the condition of North Croft-lane. The Anchor public-house has no drainage, and all the refuse from it is thrown out into the lane. Other people do the same, and there is a bad smell.

The Court was then adjourned until the town had been inspected. The minutes of that inspection will appear in a subsequent part of this Report.

Description and Government.—Newbury is a borough, market town, and parish, having separate jurisdiction, and the head of a Union, locally in the hundred of Faircross in the county of Berks, seventeen miles from Reading, and fifty-six west by south from London.

The town, including part of the parish of Speen, is one of the largest in the county. It is situate in a fertile district on the banks of the river Kennet. The Kennet and Avon canal passes through the town.

The borough comprises by admeasurement about 1,400 acres, of which 486 acres are arable, 267 pasture 17 woodland, and 46 gardens. The Union of Newbury includes 18 parishes, 17 of which are in the county of Berks, and 1 in that of Southampton, the whole containing a population of 19,963 at the census of 1841.

The Town Council consists of the mayor, 4 aldermen, and 12 councillors. The criminal government is vested in the mayor, recorder, the ex-mayor, and 4 other magistrates, whose names are inserted in the commission of the peace granted to the borough.

From an examination of the treasurer's accounts, it does not appear that the Corporation is possessed of any property applicable to the improvement of the borough.

An Act of Parliament was obtained in 1825 (6 Geo. 4.) "for lighting, watching, paving, cleansing, and improving the streets, highways, and places within the borough, town, and parish of Newbury, and the tithing or hamlet of Speenhamland, in the parish of Speen, in the county of Berks."

The mayor, aldermen, and burgesses of the borough, and all owners of property to the extent of 50*l.* per annum; all occupiers to the amount of 30*l.* per annum; and all persons possessed of real or personal estate to the amount of 1,000*l.*, are constituted Commissioners for the borough of Newbury; and the lord of the manor of Speenhamland, the vicar of Speen, and 29 other persons named, besides all owners to the yearly value of 30*l.* or upwards, all tenants of property of the yearly value of 20*l.*, and persons possessed of real or personal estate of the value of 500*l.*, are constituted Commissioners for Speenhamland.

I shall have to consider the provisions of this Act of Parliament in another part of this Report, and therefore shall only observe here, that, within the borough of Newbury alone, the executive responsibility of this Act is diffused among 106 persons.

There are few towns in England of its size containing so many charitable institutions. There are 88 almshouses for the aged, the infirm, and the helpless. Upwards of 3,500*l.* per annum is received from charitable bequests, and expended according to the different directions of the respective founders.

The manufacture of broadcloths was formerly extensively carried on at Newbury, as is proved by the fact that John Winchcombe, the famous clothier, commonly called Jack of Newbury, furnished 100 of his own workmen, clothed and

paid them, for King Henry, and sent them to Flodden Field.

There are now 3 or 4 iron-foundries in the town, employing about 40 persons; 14 or 15 malting establishments, with about 20 men altogether; and several corn-mills, employing about 20. Besides these there are no trade occupations but such as are common to all towns. The lower classes are chiefly employed in husbandry.

The chief trade is in malt, flour, bacon, and agricultural productions. Newbury market is the largest in the county, and, for corn, the most extensive within a radius of 40 miles. Within a distance of 7 miles there are 26 corn-mills and 70 malt-houses.

It does not appear, therefore, that the avocations of the inhabitants are capable of exercising any prejudicial effect upon the general health of the district.

The only church within the borough is the parish church, dedicated to St. Nicholas; but there are chapels belonging to the Wesleyans, the Primitive Methodists, Independents, Baptists, Presbyterians, Friends, and other sects. All of these have burial-grounds, which I shall have to notice in their proper place.

Physical Character of the District, and Meteorology.—Newbury is situated in an undulating and picturesque district, but the immediate site of the town is very little above the level of the water in the river Kennet, which is dammed up for mills and navigation locks. Several open ditches, fed from the river above the town, pass through the midst of the buildings along the streets, and again empty into the river. The scouring action of these streams has been made subservient to the removal of injurious refuse, but the numerous complaints already quoted from my minutes prove the inadequacy of such attempts at town drainage.

The greater part of the site of the town is therefore marshy and ill drained. The excavations that have been made from time to time prove that it was once a most fatal bog. On both sides of the river, for about sixteen miles in length and an average of about half a mile in breadth, there are strata of peat, varying in thickness from 1 to 8 feet. In excavating this, there are said to have been found oaks, alders, willows, and firs, indiscriminately mixed, and also the horns, skulls, and bones of different kinds of deer, with the heads and tusks of boars, and skulls of beavers. The

general geological formation of the district is chalk, with overlying gravel.

With this description of the present and past state of the surface, I need not say that the want of drainage of the site of the town is a serious sanitary evil.

As to the meteorology of the district, I have received some valuable information from the Rev. Walter Sheppard of the Hermitage, near Newbury, who says in his communication,—

"My village is four miles north-east of Newbury, and situated at a much higher elevation; and I have remarked that a line of hills, running between us and Newbury, generally diverts from us all storms that reach Newbury, and those that visit us generally pass by Thatcham into Hants, or by Wantage into Oxon, taking the line of the down and moorland between those two places. This has held good in all the great storms visiting this neighbourhood. New Town and Highclere yesterday were visited with a severe storm; Hermitage had none."

These remarks show the necessity of considering the general contour of a district before making any general application of local observations. Mr. Sheppard has favoured me with a table, showing the direction of the wind for four years, from which it appears that northerly winds are very common, but still that the prevalent winds are westerly.

The following are the relative proportions of the observations:—N., 40; N.W., 49; W., 43; S.W., 66; S., 20; S.E., 32; E., 26; N.E., 46; variable, 16.

The following table gives the monthly and annual rainfall, and the number of rainy days during each month and year, for a period of seven years, from 1844 to 1850 inclusive:—

FALL of RAIN, &c., with the NUMBER of DAYS, at HERMITAGE, 1844-50.

Months.	1844.		1845.		1846.		1847.		1848.		1849.		1850.	
	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.	Inches.	Days.
January - -	1·99	14	2·85	17	3·40	19	1·72	13	0·67	11	1·60	16	1·25	7
February - -	3·18	20	0·69	10	1·07	10	2·30	11	2·61	19	2·06	9	1·30	9
March - -	2·08	16	1·10	15	1·80	13	0·96	12	2·49	24	0·78	9	0·33	7
April - -	0·37	4	1·33	14	2·47	16	1·36	12	3·72	20	3·13	20	3·16	16
May - -	0·48	9	2·05	20	1·87	12	2·77	14	0·38	5	3·39	13	2·32	17
June - -	0·82	13	2·51	16	1·34	6	1·59	16	4·77	20	0·62	9	2·17	9
July - -	1·97	14	1·80	20	1·78	9	0·70	7	2·30	16	2·83	12	3·95	19
August - -	2·62	12	3·16	19	4·65	16	0·76	11	3·21	24	0·93	11	1·12	17
September - -	1·93	13	3·42	12	1·38	5	1·44	11	3·03	8	3·74	13	2·00	10
October - -	4·43	20	1·41	8	5·08	25	4·48	15	4·25	22	2·16	11	1·31	15
November -	3·28	13	2·54	20	1·81	11	2·37	14	0·95	12	1·08	10	2·28	13
December - -	0·32	9	2·31	19	0·84	13	3·33	17	3·48	18	1·93	14	1·35	13
Total - -	23·47	157	25·18	190	27·49	155	23·78	155	31·86	199	24·25	147	22·54	152

Hermitage, near Newbury,
May 2, 1851.

WALTER SHEPPARD.

Population, Number of Houses, &c.—The number of inhabitants in the borough and parish of Newbury at the census of 1801 was 4,275; in 1811 it was 4,898; in 1821, 5,347; in 1831, 5,959; in 1841, 6,151; and at the last census, 6,574. The number of inhabitants in the town of Newbury and hamlet of Speenhamland, Shaw, and part of Greenham, is probably about 10,000.

The decennial increase within the borough from 1801 to 1811 was equal to 14·5 per cent.; from 1811 to 1821, 9·2 per cent.; from 1821 to 1831, 11· per cent.; from 1831 to 1841, 3·2 per cent.; and from 1841 to 1851, 7· per cent.

The number of houses at the census of 1831 was 1,330; in 1841 it had increased to 1,409; and in 1851 to 1,434.

The average number of inhabitants per house, therefore, in 1831 was 4·5; in 1841 it was 4·4; and in 1851, 4·6. Though some of the small houses are much crowded, yet I do not recollect any town in which the average number of inhabitants per house was so low.

I am indebted for the following classification of the rateable value of the houses to Mr. *Benjamin Grobety*:—

Classification of the Annual Rateable Value of the Houses in the Borough of Newbury.

Annual Rateable Value.	No. of Houses.	Annual Rateable Value.	No. of Houses.
Under 3*l.*	289	Brought forward	1,286
3*l.* and under 4*l.*	379	25*l.* and under 30*l.*	29
4 „ 5	154	30 „ 40	64
5 „ 6	56	40 „ 50	34
6 „ 7	82	50 „ 60	9
7 „ 8	33	60 „ 70	1
8 „ 9	42	70 „ 80	2
9 „ 10	37	80 „ 90	1
10 „ 15	93	90 „ 100	0
15 „ 20	68	100 and upwards	8
20 „ 25	53		
Carried forward	1,286	Total	1,434

It will be observed, that more than half the houses are rated under 5*l.* annual value.

Minutes made during the Inspection of the Town.

North Brook-street, Toomers-yard.—A heap of all sorts of rubbish. A privy sometimes emptied on this heap.

Simmons's-yard.—A large yard with twenty houses. Mr. Simmons complains of the bad drainage. There is a grate, with a square brick drain and little fall. He says he has to give a man a quart of beer every week to take away the filth. The drain is about 4 inches in diameter.

Lower down there is a cesspool and some privies, from which a drain goes through the yard previously examined. The cesspool is close to a house corner, and only covered with a board. There are no traps to any of the grates in the yard.

Newton's-yard, or *Cox's-yard.*—A very offensive narrow place. No drainage. Foul privies and foul piggeries. Stagnant filth and privies draining through the wall.

Marsh-ditch.—Much of it is covered over. Privies are built over it close to the houses. In summer time, when water is scant, the stench is said to be very great; the exhalations are now very fœtid.

Winchcombe-yard.—At the bottom is a horizontal door, with three steps down to the same ditch, for people to come for water for washing. There is a drain flows in at the bottom step where people dip. The stench is very bad now; and the water, from night-soil and other filth, quite unfit to take into any house.

Marsh-lane.—All pebble pavement. A public highway. Very bad surface drainage. All the drainage from a brewery, and the filth from many houses, is thrown out and stands there.

Jack of Newbury-yard.—Two privies over the ditch are under bedrooms, and the ordure running over on the surface of the ground.

The Marsh, in the vicinity of these nuisances, consists of 15 or 16 acres of common land, used for pasturage by any of the inhabitants keeping cattle, and for cricketing, and other games.

Harding's-yard.—Bad pebble pavement, and stagnant filth on the surface. New privies and cesspools are being made close to houses, within three feet of a washhouse and twelve feet of a house. Water now in the bottom of cesspools is about four feet deep.

White Horse Cellar-yard.—Foul privies and dung-heap. Very close and narrow yard. Many of these yards are much confined, and without possibility of ventilation.

Examined *Marsh-ditch* in another place, where it was open. Mr. Ryott said there is now about two feet deep of mud in it, and he had known many cases of fever in the neighbourhood.

Marsh-ditch, on the north side of the marsh, is wide, very foul, and the stench great. The boundary ditch, between the borough and Speenhamland, is open and clean here, and has a considerable fall. At *Westall's property* all the privies from the *Speen* side go into the ditch. There is a great run now, but in summer it is said to be very offensive, and quite

stagnant. Every privy and cesspool on both sides goes into the same ditch.

Mr. *Edward Greaves* lives adjoining the ditch, and has nine children. He said,—

"I have lived here about sixteen months. I did not pay 2*l.* any year for doctor's bills before coming here. The doctor has not been out of my house these six months. There has been much fever in the adjoining house, occupied by Mr. Bentall. The stream runs close by his house and against the wall of my house."

Mr. *Bentall* says,—

"I have lived here twelve years, and have 5 children. We have had a great deal of illness in the house. 3 children have had low fever; I have had typhus fever; 3 had scarlet fever twice, or a low fever the second time. Occasionally in summer time, when there is a short supply of water, the stench is terrible, especially in an evening."

On the other side of North Brook-street there are similar long, narrow, ill-ventilated yards. About half or more of the population of the borough live down these yards.

There is an open ditch down the west side of the street with drains into it from houses and water-closets. A man was cleaning it out with a cowl and a brush. The stench is said to be bad, especially in summer.

Nearly opposite the Independent chapel-yard is an untrapped grate, from which the stench is complained of. Below the level of the Kennet the ditch is covered. In the chapel-yard there are thirty houses besides the front, with very bad drainage. The water is not good, and there is only one pump in the yard. A grate from the drain is about seven feet from it.

Rose and Thistle-yard.—All bad surface drainage, and a very offensive large dungheap, of probably thirty loads, under a shed.

James Emman's North Croft.—A lodging-house, with a very filthy privy close to the door.

In *North Croft-lane* the ditch is stated to be very offensive at times.

Bartholomew-street.—Mrs. Long, wife of Mr. Thomas Long, shopkeeper, says, a drain goes into the house, and there is a grate in front of the window, from which there is a very bad stench at times. Mr. Edward Knight has a similar grate near his house, and he also complains. There is no trap to either. The drain runs a long way, and is very offensive.

West Mills, Shaw's-lane.—There is a long tank, about 4½ feet above the level of the ground, made by the Commis-

sioners, to flush the new public drains ; it is used occasionally, and is said to answer well. The water is the level of the Kennet, the river being banked up for navigation purposes.

Bartholomew-street, Whitehall-yard.—All the drainage is into a cesspool, covered with boards. Several piggeries and a privy drain into the same. There are houses close by. The cesspool overflows at the bottom of the yard, and forms a most horrible pool on the surface. The tenants complain much, and say the stench is enough to breed sickness in every house. One says she has brought up a family here, and lived here twenty-two years, and the landlord has never done anything during that time to improve the property. There has been much sickness in the yard. The tenants pay each 2*s.* 4*d.* rent, and have only one bedroom. The pump is out of condition ; the water hard, and not very good.

Nutley's-yard.—Drainage into a cesspool. Stench very abominable. A large accumulation of solid filth on the surface. Privy dilapidated. 15 houses in the yard. The cesspool is large, and it takes two nights to empty it : the liquid is intended to soak away into the earth.

The City contains many almshouses. No under-ground drainage. The channels are of pebbles, and the remainder of the surface unpaved. No footpath. Channels standing in foul pools. A draw-well, almost surrounded by filthy stinking channels. Depth to water, 5 or 6 yards. The will is said to be never dry, and supplies about 100 houses. The water furs the kettles. The cottages are held on lease from the Corporation. There are some gardens in front, and an open ditch down the centre brings all the filth from many houses ; it stands in pools, and is very offensive.

Examined Mr. William Shaw's manure manufactory. Pools of night-soil and ashes, and sand. Above 200 yards from any house ; south from the town about half a mile. Said to be smelt at the cemetery, a quarter of a mile off.

New Town Pond belongs to the Commissioners ; it is used to let water run down the streets in case of fire. It is only about 50 × 25 × 5 feet deep.

Examined water at Mr. Asprey's house, at the top of the hill, and found it quite yellow.

The workhouse has much better water, though it is occasionally yellow. Bottles are incrusted with deposit. There is a force-pump at the top of the house, but no provision for fires. The privies are all trapped, and drain into a main culvert, passing down the hill. The Guardians have

taken two acres of land, and intend to use the sewage. In the yard there are traps to the drains.

I examined the laystall of the Commissioners, just below the cemetery. It is too near the houses, and the stench is complained of in summer.

Part of the *City, Old New Town-road,* there is a stream runs down the unpaved channel, and the people, Mr. Roake says, actually drink water from the channel after it has received drainage. Mr. Lawrence, of the Town Clerk's office, said he used to live above this place, and frequently bought water at ½*d.* per pail. The people have stones put down at their doors to make dipping places. The stream would about fill a 3-inch pipe. The inhabitants say they do not drink it. They have no water; they go on trespass, or beg, or get water where they can.

Hereford-place has no drainage but into cesspools.

Pound-street is all surface drainage. Mr. Martin said, that last year, in inspecting the town, he and others detected two privies emptying into the street at Old New Town-road.

Clement's-yard has only bad surface drainage, with stagnant filth, in pools. It is a public thoroughfare. Very filthy piggeries draining into a cesspool; and large manure heaps.

Cheap-street.—Mrs. Green's property has very bad drainage, in open channels, through several yards,—through a privy, and then soaks away behind the garden. There *was* a ditch separating Newbury from Greenham parish; but since the railway was opened the ditch has been filled up.

In *Cheap-street,* near the railway, there is a tank 6 × 9 × 3 feet, raised about 9 feet high, on eight cast-iron columns. It fell down twice. There is no water in it. This was put up by the Commissioners about a year and a half ago, for flushing their new drains. It is not often used. It has a force-pump to fill it, and a lever to let off the water.

Martin's-yard.—Bad privies. What Mr. Martin is compelled to call "a water supply" is, that the roof water flows on part of the surface channel, and then by a pipe to the street, to carry away the filth in the drain.

Examined the Cattle-market.—It has now an under-ground drain, but formerly all the refuse used to be pumped out of a dead well, through a spout, to a surface channel, leading to Cheap-street, Mr. Thomas White kills an average of thirty pigs a week. He has no under drainage; and there was much blood and filth about the premises, with a corresponding stench.

I have given these extracts just as they appeared in my minutes, without comment. They speak for themselves as to the defective sanitary condition of Newbury, and will prepare your Honourable Board for the evidence detailed under the next head of the inquiry.

DISEASE AND MORTALITY.—The evidence of the medical practitioners residing in the locality is entitled to the serious consideration of the inhabitants. In giving such testimony, they have no private interests to subserve, and can be actuated only by the highest and most humane motives, in their efforts to improve the sanitary condition of the town in which they live. In addition to the above, their professional education and pursuits peculiarly qualify them to define the character of preventible disease, and to trace it to its origin.

With this view I think it right to quote the medical evidence at large.

John Alexander, Esq., said,—

"I am a surgeon practising in Newbury. I have practised here from thirty to thirty-five years. I am also one of the coroners for the county of Berks; I am well acquainted with Newbury, and with its sanitary condition; we have not been subject to any endemics from any local causes; we rarely or never have any cases of ague. The more prominent classes of diseases are scrofula and rheumatism, with all the various attendant forms of scrofula, such as glandular affections, swellings of the joints, &c.

"I attribute the more than common amount of these diseases to the lowness and dampness of the locality. That dampness is confined to the Kennet Valley. On both sides of the valley there is high land, chalk and gravel, porous and dry. In the valley we have a stratum of peat. On the higher ground the cases of these diseases are less frequent and less severe; the more drained the valley can be, the more free the inhabitants would be from predisposition to these complaints. Since the passing of the Local Improvement Act, the town has been better drained, and much more cleanly. The streets used to be flooded; I have seen persons passing in North Brook-street in boats, and in tubs; but not of late years. I do not know whether this cessation of flooding has resulted from any operation of the Commissioners. It is, however, evident that the condition of the town has improved of late years, although it is very bad now in some places. There may have been diseases from local causes among the poorer classes, but my practice is not among them, and I know very little of their condition in that respect. There are many yards containing numerous inhabitants, but from the same cause I am unable to say what is their sanitary condition.

"Not a quarter of an hour before I came here, I perceived a most horrible effluvium from a drain near the church. There is a

dung-heap in the Rose and Thistle yard under a shed; it is most offensive to be in a thoroughfare.

"I do not know of the existence of any underground drainage of houses. I do not know of any cesspools; there must be some in the town. There are no public means of giving a water supply to the inhabitants.

"I should say that a proper water supply and a system of drainage to remove away all offensive refuse, would produce a most beneficial influence on the health of the inhabitants; it is most desirable that it should be accomplished.

"I am one of the magistrates of Newbury, and signed the petition for this inquiry. I am a member of the town council; I have no recollection whether the nuisance in the Rose and Thistle yard was brought before them or not, nor whether the Nuisances Removal Act was put into operation in that particular case; but in other instances I know it was, and it may have been in this. I should say that there is nothing in that Act to prevent the renewal of the nuisances. There can be no doubt that prevention is better than cure."

Richard Rodd Robinson, Esq., said,—

"I am medical officer of the Union for the Newbury district. I have had that office nearly eighteen years, ever since the Union was formed. I live in the parish of Speen, about a quarter of a mile from the town. My official duties have caused me to be well acquainted with the condition of the poor. The yards in Newbury are very low, very crowded, and badly drained; many of them are very narrow, and badly ventilated. Cesspools in these courts are general. These low, narrow, long courtyards are, as far as my knowledge of other towns goes, somewhat peculiar to Newbury. Very few of the houses occupied by the poor have more than two sleeping-rooms, and many have only one; many of the houses have no thorough draft. In general terms, I should think there would be about twelve houses to each courtyard on the average. There are yards 20 feet wide, but very few so wide; there are few into which a cart could pass. Some, not very many, are not more than 4 feet 6 inches wide. In North Brook-street, Hermon's-yard is not wider than 5 feet, with a wall in front as high as the houses. Generally speaking, those yards have only one privy in them, and others have none at all. *If it had been my ill fate to live in one of those yards, I would rather have been without privy than have had such an one as many of those existing. The night-soil passes into a cesspool pit, and I do not know of one privy of that kind with a trap above the cesspool.* I have too frequently had the evidence of my senses as to the result. The constructive character of these courts—their natural want of ventilation—is an additional and strong reason why the atmosphere should be kept as pure as possible. The atmosphere is not at all pure in such places; the result of the state of the atmosphere has been a great deal of disease, more particularly in children.

"A great number of children have had infantile remittents, scarlatina, and measles. Scarlatina has assumed a malignant type in such places. There have been also many scrofulous cases, large

joints, hydrocephalus, and glandular affections. I attribute these diseases to a great extent to the bad sanitary condition of the places where the people live.

"The cesspools receive, besides the soil of the privies, the general drainage of the yards. These cesspools are intended to soak away into the subsoil of the town, at least the liquid part. I think there is generally a well and pump for water in each of these yards; the water well is usually deeper than the cesspool. From the pouring of liquid into the cesspool, and the drawing from the well, I should say there is a tendency for the cesspool to percolate to the well.

"One or two slaughter-houses empty into the North Brook ditch in the street. They go in where it is covered over, but the stench at times, from both ends, is very disagreeable, and calculated to be injurious.

"There are 80 or 90 houses, called the City, with very few privies; I should not think there is more than 1 privy to 12 houses. The poor experience so much inconvenience that they use utensils, and throw the night soil to a heap, where it remains until the scavengers take it away. In these courtyards, of which I have been speaking, the diseases most affecting the adults have been rheumatism, scrofula, and typhus fever; continued fever, diseased livers, inflammations, pneumonia, enteritis, and consumption are very prevalent.

"Perhaps the typhus and continued fever might be prevented by better sanitary arrangements, and the breathing a pure atmosphere. Rheumatism, scrofula, and consumption, would be very much mitigated, both as to the number of cases and the virulence of them.

"Cheap-street has been drained, Bartholomew-street has not. There is a yard, called the Factory-yard, in which I almost always had disease before the drainage, but subsequently have had little or none. The average earnings of the poor in Newbury are about 8*s.* per week. Very quickly on an attack of sickness, they are compelled to apply to the Guardians, and my services are called into requisition. The relief is not confined to medical relief in such cases. My opinion is, that Newbury has been put to great expense from fevers among the poor; the more respectable inhabitants have to pay for this in the shape of poor-rates. I am not one of the Improvement Commissioners. Speaking from my experience as medical officer for many years, and from my knowledge of the town, I have no doubt, that as compared with the present cost of preventible disease among the poor, permanent sanitary improvements would effect a pecuniary saving."

Henry Shirley, Esq., said,—

"I have been practising as a surgeon in Newbury seven years. I think chest affections, consumption, bronchitis, &c., are the prevalent diseases; I think the locality is peculiarly liable to nervous and dyspeptic diseases. I have not a strong opinion as to the cause of this prevalence, but it may be the great quantity of water about the neighbourhood.

"I think in places where I have had bad cases of fever they have been directly traced to some nuisances, such as bad drainage and foul privies. In some places tubs are sunk for cesspools, or to receive the fluid from cesspools; these burst and run over, and the nuisance is horrible. I have not lately had many cases of low continued fever in my practice. There is a good deal in the villages around, but not in Newbury.

"There were not many cases of cholera in Newbury. There were three in one lodging-house down by the water. There is always a bad smell down that part. There were many cases of diarrhœa here at the time of the cholera, and it is a very prevalent disease in the town: about a month ago there were a great many cases of diarrhœa, and it was apparently connected with a peculiar state of the atmosphere. Many people had influenza at the same time.

"The change for the better in Cheap-street is a proof of the advantage of drainage, and that the effectual drainage of the town and surrounding district is most desirable. If the other streets were drained on the same plan as Cheap-street, it would be a great benefit to the town. If, however, drains could be made in the courtyards, and all the decomposing matter could be at once passed underground and removed from the town, it would be much better than the plans laid down by the Commissioners."

Remarks on Medical Evidence.—The importance of this testimony will justify a brief retrospective glance at the principal facts proved.

Mr. *Alexander*, in addition to his high local position as a magistrate and county coroner, brings to bear upon the subject before your Honourable Board the medical experience of more than thirty years. He attributes the more than common amount of rheumatism and scrofula to the want of better drainage. He is of opinion, that a proper water supply, and systematic drainage, would produce a most beneficial influence on the health of the inhabitants; and is himself one of the petitioners for the application of the Public Health Act.

Mr. *Robinson* is also a practitioner of long standing, and has been medical officer of the Union nearly eighteen years. Many of the courtyards, he says, are low, crowded, ill-drained, and badly ventilated, with generally only one privy to an average of about twelve houses. The night-soil passes into a cesspool, and he does not know of one such privy with a trap above the cesspool. Degrading and demoralizing as it is for inhabitants of towns to be utterly destitute of arrangements for the necessities of nature, yet, after a personal examination of these places, I fully agree with Mr. Robinson, that it would be better to be without

privies than to have such as many of those existing in Newbury. He speaks of another obvious fact in connexion with the cesspools and contiguous water-wells, namely, that the greater depth of the latter, combined with the processes of pouring into one and taking out of the other, must lead to pollution of the water. He enumerates about twelve specific diseases being most common among the poor, and is of opinion, that several of the most active, dangerous, and expensive, might be prevented; while the others would be mitigated, both as to virulence and the number of cases. He has no doubt that, as compared with the cost of preventible disease, permanent sanitary improvements would effect a pecuniary saving.

Mr. *Shirley* says, that where he has had cases of fever they have been directly traced to some nuisances, such as bad drainage and foul privies. He describes the wretched expedients adopted for want of proper drainage, the good that has been accomplished by one street-drain laid down, and anticipates the great benefit that would result from systematic drainage of the whole town, including the unhealthy courtyards.

Vital Statistics.—The above testimony is amply borne out by the accumulated facts drawn from the registers of deaths within the borough. However competent and experienced the witnesses may be, and however disinterested, there is always some degree of uncertainty and imperfection as to matters of merely human opinion; but the public registers are the records of actual facts, showing the number of persons who have died, their ages, and the causes of death. These records are capable of comparison with exactly similar records kept in other places, where the physical circumstances of the inhabitants are analogous or dissimilar. From such comparisons deductions may be made as to the nature and amount of preventible disease, and the high or low sanitary condition of a community.

I have obtained from Mr. Tanner, the Superintendent Registrar of the district, the necessary extracts respecting the deaths in Newbury for a period of ten years; and have constructed the following table, to which I beg to call the serious attention of your Honourable Board and the inhabitants of the borough:—

TABLE of PREVENTIBLE EXCESS of SICKNESS and MORTALITY in the Borough of NEWBURY.

Year.	Population.	Place.	Total number of deaths.	Total number of births.	Mortality to a thousand of the population.	Proportion of deaths to the population.	Proportion of births to the population.	Proportion of deaths of infants under 1 year to the births.	Proportion of deaths from epidemics to the population.	Average age of all who have died.	Average age of all who have died above 20 years.	Proportion per cent. of deaths, at each interval of death, to the total deaths.										
												Under 1 year.	Under 5 years.	Under 15 years.	Under 20 years.	Between 20 and 30.	Between 30 and 40.	Between 40 and 50.	Between 50 and 60.	Between 60 and 70.	Between 70 and 80.	Between 80 and 90.	90 and upwards.
1841	1,003,124	Sixty-one whole registration districts in England and Wales	16,063	28,280	16·01	1 in 62½	1 in 35	1 in 11	1 in 449	Y. M. 37 5	Y. M. 60 0	16·0	27·5	34·4	38·4	7·8	5·9	5·6	6·8	10·0	13·3	10·0	2·0
1841	29,798	Registration districts of Easthampstead, Cookham, and Wokingham	483	769	16·20	62	39	9	489	35 11	57 0	18·0	29·5	35·7	39·8	8·3	6·6	9·1	6·6	8·3	12·4	7·7	1·0
1841	55,412	Registration districts of Bradfield, Newbury, and Hungerford	1,026	1,617	18·51	54	34	9	407	35 2	58 4	16·9	31·3	38·4	42·8	7·5	7·9	5·2	5·6	9·9	11·7	8·6	1·0
1841	6,151	Borough and parish of Newbury	142	226	23·08	43	27	10	267	33 9	53 8	15·5	31·7	39·4	39·4	9·9	12·7	6·3	4·9	7·0	11·2	8·4	0·0
1842	6,198		157	194	25·33	39	33	9	124	36 2	55 3	13·3	24·2	33·1	37·0	6·3	12·7	7·0	5·7	12·7	10·8	5·7	1·9
1843	6,245		156	219	24·98	40	28	8	215	37 7	55 10	16·6	28·8	32·0	34·0	9·6	8·3	6·4	9·6	13·4	12·2	5·8	0·6
1844	6,292		137	180	21·77	46	35	7	225	33 10	52 9	19·0	28·4	36·5	38·7	10·2	8·8	7·3	12·8	7·3	9·5	5·1	0·7
1845	6,339		134	212	21·13	47	29	7	186	32 11	54 6	22·4	35·1	38·8	41·8	11·2	8·2	6·7	7·4	6·7	11·2	4·5	2·2
1846	6,386		214	178	33·51	29	36	3½	123	32 7	56 9	23·3	37·4	42·0	45·3	7·0	8·8	7·0	4·6	10·7	10·7	4·6	1·0
1847	6,433		185	198	28·75	34	32	6	100	28 9	52 6	18·9	36·7	46·4	49·2	10·3	8·6	6·0	3·2	8·1	10·3	4·3	0·0
1848	6,480		186	213	28·70	34	30	6	151	36 11	60 0	18·3	36·0	37·6	41·4	7·0	4·8	6·0	10·8	6·4	15·0	7·6	1·0
1849	6,527		178	183	27·27	36	35	6½	100	33 5	55 5	15·7	34·8	38·7	42·1	8·4	5·6	11·2	7·3	8·4	10·7	5·6	0·5
1850	6,574		151	194	22·97	43	34	7	164	39 2	59 11	18·5	26·5	32·4	37·1	7·2	7·3	6·0	9·3	10·0	13·2	8·0	2·0
Totals			1,640	1,997																			
Averages	6,362		164	199	25·77	39	31	7	149	34 5	55 9	18·3	32·3	38·0	40·9	8·6	8·4	7·0	7·3	9·1	11·5	5·9	0·9

The first line comprises statistics of sixty-one entire registration districts in England and Wales, without any sanitary improvements. These districts contain a great number of towns,—more than a million inhabitants,—and much preventible disease. The basis is wide; and the result of comparison ought to be in favour of a town like Newbury, having its Town Council, Improvement Commissioners, and other local authority, interested in the conservation of the public health.

The second line contains similar statistics for the entire registration districts of Easthampstead, Cookham, and Wokingham; being in the same county as Newbury, with similar climate, geological strata, water, trade avocations, &c., the difference between the rates of mortality in these places and Newbury can only arise from defective sanitary arrangements. I do not, however, adduce these places as standards of what Newbury ought to be, because, as far as I am aware, there are yet no efficient sanitary arrangements in any of them. Cookham includes the mortality of the borough of Maidenhead, and my report on that place shows that a large proportion of preventible disease exists; and yet the rate of mortality is only about two-thirds that of Newbury.

The third line gives the figures, under similar heads, for the registration districts of Newbury, Bradfield, and Hungerford, classed together, because the rates of mortality are alike. The object of this is to obtain a still more specific comparison, namely, the borough with its own registration district. In making this comparison, however, it must be remembered that the statistics of the registration district of Newbury include all the excessive mortality of the borough. If this had been extracted, the value of life would, probably, have been as great in the remainder of Newbury district as in the districts placed higher in the table; and the contrast between the district and the borough would have been still more appalling.

The remainder of the table is occupied with a series of actual facts connected with the work of death in the borough, from June 1841 to June 1851—(ten years),—and the totals and averages of that period.

The population of 1841 and 1851 are according to the census returns, and the intervening years are calculated on the ascertained rate of increase.

I shall very briefly advert to a few of the more striking of these columns of figures.

The rate of annual mortality to 1,000 of all living, in the sixty-one whole registration districts, is 16·01; in Cook-

ham, &c., 16·20; in Newbury district, 18·51; but in the borough of Newbury the average of the whole ten years is 25·77.

The proportionate number of children destroyed during infancy is a sanitary test much relied on. In the sixty-one districts quoted, the proportion of deaths of infants under 1 year old to the births is 1 in 11; in Cookham, &c. it is 1 in 9; in Newbury district, &c., 1 in 9; in the borough of Newbury the average of ten years is 1 in 7. An examination of the columns headed "Proportion per cent. of deaths at each interval of death to the total deaths," and a comparison with the places in a better sanitary condition, will show that there is not a *great* preponderance of mortality in Newbury at any specific period of life, but that the increased number of deaths pervades all ages, and is in general and constant operation among the inhabitants.

It is not the less true, however, that a very considerable proportion of the excessive deaths are from epidemic diseases, which, in the opinion of all medical men, are more entirely within human means of prevention than diseases of other classes. Tried by this test, the sanitary condition of the borough of Newbury is very low.

In the sixty-one registration districts given, the proportion of deaths from epidemics to the population is 1 in 449. In Cookham, &c., 1 in 489; in Newbury district, &c., 1 in 407; in the borough of Newbury the statistics show that the annual average for the past ten years is 1 in 149.

The average age of all who have died shows a declension as the eye proceeds down the column. The sixty-one districts give 37 years and 5 months; Cookham, &c., 35 years and 11 months; Newbury district, 35 years and 2 months; the borough of Newbury, 34 years and 5 months.

So, again, of those who have survived to years of maturity. The average age of adults, at death, in the sixty-one districts, is 60 years; in Cookham, &c., 57 years; in Newbury district, &c., 58 years and 4 months: while in the borough of Newbury the average of the whole ten years is only 55 years and 9 months.

Every one of these excessive deaths involves the loss of funeral expenses, which, for fees, mourning, &c. would be estimated very moderately at 5*l.* each.

It is found by experience, also, as a general fact, that every death in excess, for want of sanitary arrangements, represents 28 cases of sickness in excess, arising from the same causes, and costing, on the average, 1*l.* each at least, for medical attendance and loss of time.

The shorter duration of life involves so much cut off from the total producing power of each individual; and the value of this to the community is the average wages paid for labour. In the following calculations I have taken this at 10*s.* per week for an adult male, and 5*s.* for a female; or 7*s.* 6*d.* on the average.

Under these three heads alone the annual average loss to the borough of Newbury, as compared with the sixty-one registration districts stated in the table, is :—

	£
Cost of excessive funerals - -	310
Cost of excessive sickness - -	1,736
Cost of lost labour - - -	9,694
	£11,740

As compared with the registration districts of Cookham, &c., in the same county, the figures are as follow :—

	£
Cost of excessive funerals - -	300
Cost of excessive sickness - -	1,680
Cost of lost labour - - -	4,797
	£6,777

And, as compared even with its own registration district, the statement is :—

	£
Cost of excessive funerals - -	230
Cost of excessive sickness - -	1,288
Cost of lost labour - - -	2,398
	£3,916

On this low consideration of merely money loss, it cannot be disputed that the most complete, nay even extravagant outlay for sanitary improvements, would be economy, compared with the losses entailed by preventible disease and mortality in the borough.

Drainage, Sewerage, &c.—I have already, in the minutes of my inspection, mentioned the evil consequences of cesspools, houses without any drainage, open filthy ditches, and other circumstances; from which your Honourable Board will form some judgment as to the drainage of the town.

It is admitted that the Local Act does not provide for house-drainage; and, in fact, that house-drainage does not exist to any considerable extent.

Mr. *G. H. Beckhuson* keeps the accounts of the Commissioners, and gave the following evidence as to the drainage of the town:—

"I am in the office of the clerk to the Newbury Improvement Commissioners, and keep the accounts. All the public drains in the town are under the jurisdiction of the Commissioners. I do not know the length of underground drains, new and old; but will ascertain, and let you know. I produce some plans showing drains constructed by the Commissioners in 1849; and showing also other contemplated drains that have not been constructed. The work is postponed, but not given up. Contracts exist for making the drains in North Brook-street and Bartholomew-street. I can let you have the proposed cost to-morrow, and also the particulars as to the drains already constructed.

"The new drains were only intended to carry off surface water. All private yards and premises were allowed to be drained into them at the private cost of the owner. The contractors were bound to complete such drains at certain stated prices."

On examination of these plans, I found that they were not deep enough to drain cellars, but might have been made sufficiently deep (at least five feet deeper) if the outfall had been a quarter of a mile farther down the river Kennet, so as to obtain a discharge below a lock at that distance. There is no public water-supply, and the new drains are contrived so as to require artificial flushing, for which purpose there are two tanks—one of stone, fed from the river at a higher level; and the other raised on cast-iron columns, and intended to be filled by a force-pump.

I fully agree with the evidence already quoted, that the new drains have been an advantage to the health of the inhabitants within reach of them, inasmuch as any means of removing decomposing filth must be better than its stagnation in the midst of the inhabitants; but seeing what might have been done on more comprehensive and ultimately more economical principles, I cannot approve either of the sizes, depth, or cost of these new sewers, or of the flushing process. I think it may be taken as an axiom that artificial flushing is only, at the best, a useful expedient to remedy the defects of a bad system of drainage. All drains should be laid out so as to have sufficient velocity to discharge anything that they ought to receive. I would not recommend, therefore, that the plan should be further proceeded with.

On the following day Mr. Beckhuson put in a statement

in writing, from which it appears that the old drains consist of—

1,933	feet,	of 2 feet and upwards.
244	„	18 inches.
2,480	„	12 „
84	„	10 „
50	„	9 „
Total - - 4,791	=	1,597 yards.

Length of new culvert—

475	yards,	18 inches and 24 inches.
300	„	6-inch, private drains.
600	„	9-inch, Back-lane.
650	„	12-inch, West Mills.

	£	s.	d.
Total cost - - - - - - -	794	18	4
Deduct cost of private drains - -	67	12	8
Public - - -	£727	5	8

Contracts entered into for draining Cheap-street, St. Mary's-hill, and Market-place (No. 3.), and Bartholomew-street (No. 1.) - -	£ 1,296	s. 10	d. 0
North Brook-street (No. 2.) - - -	447	0	0
	£1,743	10	0

Tender for a deep drainage of North Brook-street, 680*l.*

As to the condition of some of the old drains, which have not been renewed or improved, I was favoured with a copy of a report, dated 4th July 1849, by Messrs. Brown and Roake, two of the Commissioners. The Report acquires an importance from the fact that it was presented to the Commissioners by two of their own body, after investigation, without reference to the Public Health Act; and that, so far from the existing drains contributing to the good health of the inhabitants, the *whole course of the Committee's proceedings fell naturally into a consideration of how the public drains could be rendered less injurious to the public health.*

"Messrs. Brown and Roake waited upon their appointed colleague Mr. Witherington to make a survey of the drains, &c., in the district of Bartholomew-street, appointed for their inspection; but Mr. Witherington declined accompanying them, as the views of the Committee were opposed to his, and he requested that he might be relieved from the office he held.

"Messrs. Brown and Roake report, that the gutters were in a foul and stagnant state, notwithstanding they had been daily swept. They noticed that the filth swept out was laid in heaps by the side of the gutters, and had so lain from Monday's cleansing.

"The gutters being so foul, although swept daily, they attribute to the want of clean water pumped into them from the premises of the different proprietors down the street.

"The gully-hole at the entrance of Raymond's Almshouses they advise should be cleaned, and those on the right and left of the entrance to the Grammar-school they recommend should be immediately properly trapped to keep out the stench of the drains there, which is often unpleasant to the neighbourhood, and likely to engender the epidemic which is in some places prevailing. For the same reason they also recommend the often watering of the gutters, and that the pumps of the different occupiers of property down the street be used by the persons employed in the sweeping, if allowed to do so by the owners, and the refuse swept out should be carted away daily.

"They suggest that it would be desirable, during the dry weather, that matting should be laid over the different gratings of the gully-holes to keep out the stench which in such weather is more likely to occur.

"Messrs. Brown and Roake's attention was called to the syphon at the railway bridge, in which there is in dry weather accumulated a mass of heavy filth, which, on the first heavy shower, was washed out into the gutters, and produced much annoyance to the neighbourhood. They think the Railway Company ought to be requested to appoint one of their servants to open the valve at least once a week, to allow the accumulated filth deposited at the bottom to run down the culvert of the line of rail.

"In Messrs. Brown and Roake's survey, they discoursed with several householders, who expressed much satisfaction at the prospect of having a culvert down the street; and it occurred to them that the person who should be employed to execute the work should engage to make the contributory drains from the different properties at a fixed charge per foot."

I received some important evidence as to the existing drainage from Mr. Robert Martin, who is one of the Commissioners, and was actively engaged in superintending the construction of the new drain in Cheap-street and neighbourhood. He says,—

"I am one of the Commissioners, and was appointed by the body as one of the surveyors of the district, including the Market-place, Cheap-street, and St. Mary's-hill. I was actively engaged when the drain was made in Cheap-street; and, since the drainage has been effected, I am perfectly satisfied it has been a great advantage to the town, not to the inhabitants of the locality only. It would have been decidedly better if the drain had been laid deeper, so as to have drained the foundations of buildings, but we could not do that with the present outlet. It is deep enough now to drain everything, except cellars. It is deep enough to drain cesspools. There was an old drain for about 150 yards before, and the side drains have been let into the new one. My private drain is a 9-inch pipe; that drains house, stables, and out-offices. We could have got a deeper outfall by going below a lock; but,

by so doing, we should have had to go into the parish of Greenham, below the mills and lock. The addition of fall would have been above 5 feet, and the increased length about a quarter of a mile. I should say that half the front houses in the town have cellars. Not many of the back houses have cellars. All the cellars I know of in Cheap-street, Market-place, and St. Mary's-hill are dry, and that is one reason why we carried out this drainage on the shallow principles. I cannot say that the cellars in Bartholomew-street are dry; and I know that some cellars in North Brook-street are wet; they are obliged to pump water out of them occasionally. They could not be made dry without going down to a lower outlet. The dampness is caused by an open ditch that runs down the street. The water might be stopped from coming down the ditch; but what must the people do with their drainage then? The water therefore does not come into the cellars in a pure state. Looking at the advantages from the drainage that has been done, I am sure that the efficient drainage of the whole town is very much to be desired. I have always been an advocate for it. I can hardly give an opinion as to whether the town would be effectually drained by the Commissioners."

I need not occupy space by adding remarks of my own to this evidence. It will be obvious that the sub-drainage of the site of the town, of the foundations of buildings, of cellars or basement stories, and of any deep cesspools or other receptacles of filth, will be impracticable, either with the old or new drains.

If the corporation, as the Local Board of Health, should adopt the lower outfall, and have any difficulty in passing the sewer into the parish of Greenham, your Honourable Board, on application, will be ready to unite that parish and the borough into one district for purposes of main sewerage only.

The Cesspool System.—The details already given in the minutes of inspection, and the statements of the medical witnesses, will have prepared your Honourable Board for the fact, that the cesspool—that most horrible of all the anti-sanitary appendages to human habitations—is in full operation in Newbury. I prefer, on this point, giving the evidence of one whose local position, experience in business, and long acquaintance with the town, renders his testimony much more weighty than anything I could say. *William Dredge*, Esq., examined, said,—

"I am mayor of Newbury, and one of the petitioners for the Public Health Act. The first thing that induced me to petition was, that I knew the majority of the ratepayers were against certain acts that the Commissioners were carrying into effect, and that the benefits resulting would not be commensurate with the

expense incurred. The reason why I was aware that a majority was against the Commissioners was, that I offered to go round the town with one of the Commissioners and obtain the opinions of the inhabitants, but he declined. I am not opposed to any improvement, but I wish that what is done should be effectually done. I am an Improvement Commissioner also. The Commissioners have no power to drain the buildings of the town, nor to supply the inhabitants with water, nor to make byelaws for regulating lodging-houses, slaughter-houses, injurious trade operations, &c., nor to do many other things connected with the health of the town.

"I am in business as a builder. I never myself knew any evil results from the closeness of the houses in the courtyards, but there may have been. I should, however, rather build in a more airy, exposed situation. Every cottage ought to have good ventilation, but many of those in Newbury have not; therefore, the more the air can be kept from contamination the better. In many of these courts the drainage is very bad, being confined to surface-channels, and some of it standing in pools.

"Cesspools are very common in these courtyards; indeed, they are almost the only receptacles we have for the filth. I believe the openings into them are generally untrapped. Generally the cesspools are made to soak away into the soil; the lighter and fluid part of the contents is supposed to discharge itself, and the heavier to deposit and remain in the cesspool. There are some cesspools circular and some square, 5 or 6 feet diameter, and 7 or 8 feet deep. The bottom is in the gravel, with brick walls, and either arched over or covered with slabs; some are only covered at the surface. Those I have named would cost from 4*l.* to 5*l.* each, complete. They will act twelve or fourteen years in some cases; in others, not more than half the time. When cleaned out they will be as good as new, but may require to be made a little deeper; the cost of cleaning out will be 1*l.* to 30*s.* The owner of the cottages pays for the cleansing of the cesspool. In some confined premises the cesspool cannot be far from the water-well. Where there is room, the cesspool is put as far from the well as possible on account of its injuring the water. I think it would be difficult to ascertain the number of cesspools in Newbury.

"In this evidence I have not taken into account the high ground in Cheap-street; the liquid refuse of the houses there flows on the surface, and is put underground before it reaches the street. In those parts of the town the cesspools are confined to the night-soil, and are called vaults. They are placed under the seats of the privies, and are sometimes as large as the others I have described. When full, the seat and floor are taken up, and the soil removed in night-carts, after which the vault will last, perhaps, four or five years before it will again require to be emptied. The vaults cost about the same as the dead wells, and the emptying the same."

The pollution of the air in these narrow, ill-ventilated courtyards, from the existence of the untrapped cesspools and privy vaults, is an evil sufficient to account for much of the excessive disease existing in Newbury; but to this

must be added the pollution of the earth all around, from the percolation of filth described in the mayor's evidence. It appears that, after a few years, the soil is so saturated that the cesspools have to be deepened to enable the liquid ordure to filter away. Again, these vaults and cesspools being of less depth than the water-wells, the process of drawing out of the latter and putting into the former must, of necessity, determine the direction of the percolations from the cesspools to the waterwells. Appendix B. contains a list of some of these cottages, with the number of inhabitants, the number of pumps or wells, and the number of privies, from the totals of which it will be seen that though the houses are generally without any drainage, and many without either water or privies, there are still 315 cottages, containing 1,143 inhabitants, provided with 89 of these privies. This is a very inadequate accommodation, being only equal to about 2 privies for every 7 houses; and yet, if the cesspools are equal in number to the privy vaults, the cost of the system would be, according to the mayor's evidence (at 4*l.* 10*s.* for each vault or cesspool), equal to 2*l.* 11*s.* 5*d.* per house for the first outlay, with a further charge, equal to about 1*s.* 7*d.* per house per annum, for cleansing and deepening.

I need not inform your Honourable Board that, as a financial question only, these two items form as great a tax upon the inhabitants as a perfect system of drainage by earthenware pipes, for the instant removal of all offensive and injurious matter from the premises.

Present Water Supply.—The minutes of my inspection have already shown that the water supply of the town is very defective; and the statistics in Appendix B. prove that 315 houses, occupied by 1,143 persons, have only 46 wells and pumps. Out of these, however, 113 houses, occupied by 376 persons, have only 12 pumps and wells, while 70 houses and 289 inhabitants are entirely without water.

The town of Newbury, therefore, presents the anomalous fact of an undrained, saturated site, where objectionable and injurious water is so abundant that cellars can scarcely exist; and yet the inhabitants suffer great inconvenience for want of a proper supply of good water for domestic and other purposes.

As to the cost of the present defective arrangements for the supply of the inhabitants, I received some evidence from Mr. William Boyer, plumber, which proves that the expedients adopted to obtain water are much more expensive

than the most efficient arrangements for supplies from public works would be. He said,—

"I am a plumber in Newbury, and well acquainted with the town. The average depth of a well at the top of the town is about 24 feet, and at the bottom of the town 16 or 18 feet. I cannot tell the cost of brick work."

Mr. *Hopson*, bricklayer, said,—

"That the sinking and bricking would be 9*s.* per yard.

"Lead barrels are generally used. An average pump complete would cost about 4*l.* for the average depth of well, and the repairs would amount to 6*s.* or 7*s.* per annum.

"Every good house has a well and pump. Cottages would have, perhaps, on the average, one pump to four houses, though there are cases of only one pump to ten or twelve houses. I only know of one draw-well ; it is in the City.

"Some of the larger houses collect the roof water in tanks, formed out of brick-work sunk below the surface of the ground."

Mr. Hopson said that the excavating and brickwork of such tanks would cost about 1*l.* It must be evident from this average that they are of small size. Mr. *Boyer* resumed,—

"The pumps for such tanks cost from 50*s.* to 3*l.* each, and about 3*s.* 6*d.* per annum for repairs, or about half as much as the others. Some persons have force pumps, costing, without cistern, 10*l.* to 11*l.* A cistern for a water-closet costs about 50*s.*

"The most general way of obtaining soft water is by casks of different kinds to catch it from the roofs. A good cask will cost 18*s.*, and a tap 2*s.* 6*d.* Some have covers, but not generally. I do not sell covers to them. Some of the poor in the courtyards have small tubs of an inferior description."

Mr. Hopson said that the elevation and fixing of the better kind of casks cost about 10*s.* and covers 1*s.* 6*d.* each. The tubs used by the poor are purchased for about 4*s.* each. Mr. *Boyer* resumed,—

"I should say that all have not tubs ; but, I think, all have pails or earthen pans. They get a good deal of water out of ditches for cleansing and washing. There is all manner of filth at times in the water of these ditches. The ordinary pail costs 2*s.* 6*d.*, and will last, without ill-usage, two or three years. The better casks will last with frequent painting many years. The tubs used by the poor are soon destroyed. Pumps do not continue long out of repair."

I am able to deduce from this evidence the present approximate cost of water to the inhabitants. For more specific application, I have classified the various substitutes for a proper water supply under three heads :—

The First includes the houses of the more opulent inhabitants, who are able to have a well, and force pump, and a good cistern for soft water.

The Second consists of the middle classes having, say, one external well and pump to two houses, and an elevated soft-water-cask of the best description for each house.

The Third class includes all those among the poor who are so highly favoured as to have a pump, common to four houses, and an inferior soft-water-tub for each house.

First Class—Cost of Water.

	£	*s.*	*d.*
Annual Interest at 5 per cent. upon 16*l.* 3*s.*, first cost of well and pump and cistern	0	16	2
Annual repairs of pump, &c.	0	6	6
Annual interest upon 4*l.*, first cost of soft-water cistern and pump	0	4	0
Annual repair of pump and cleansing of cistern	0	4	0
	£1	10	8

This amount is equal to a charge of 7*d.* per week per house.

In all the instances of pumps outside the houses, there is involved the necessity of going out, walking a certain distance, and pumping and carrying the water. This has to be done in all states of the weather, and at all seasons of the year. I have not in any place I have visited found a person, however much opposed to sanitary improvements, assert that this could be done for 1*d.* per week per house as compared with a tap constantly charged on the sinkstone. It has been frequently stated in evidence that the consumption of shoe-leather alone in fetching and carrying the water for a family would be at least a penny per week. I have, therefore, included that amount in the statements of the second and third classes where the water is supposed to be out of doors. The second statement will be as follows :—

Second Class—Cost of Water.

	s.	*d.*
Annual interest upon 3*l.* 11*s.* 6*d.*, half cost of well and common pump	3	7
Half annual repair of pump	3	3
Annual interest on elevated soft-water cask	1	7½
Annual depreciation of soft-water cask, at 10 per cent.	3	2½
Annual interest and depreciation of pail	1	1
Fetching, pumping, and carrying water, at 1*d.* per week	4	4
	s. 17	11

Equal to 4*d.* per house per week.

The third class would have to fetch and carry water a greater distance, from there being only one pump to four houses ; but I have set down the amount as before.

Third Class—Cost of Water.

	s.	*d.*
One fourth annual interest, and repair of well and pump, as before	3	5
Soft-water tub, annual interest and depreciation	2	2
Annual interest, and depreciation of pail	1	1
Fetching, pumping, and carrying water, at 1*d.* per week	4	4
	s. 11	0

Equal to $2\frac{1}{2}d.$ per house per week.

I must observe on this subject, that the more wealthy inhabitants above are supposed to be as well supplied as possible, under merely private and individual arrangements. How greatly even such a supply, and at such a cost, is inferior to pure tap water from public works, constantly on, will be apparent. Comparatively few houses, however, have their own wells, force-pumps, and soft-water cisterns ; and the deprivation of those supplied in an inferior manner must be valued, at least, at the difference of the cost. I have already shown that a great number of the inhabitants have not even the advantage of the miserable arrangements grouped under the third class, and that many have no water at all. The want of water costs these poor people much more than the pumps and cisterns, &c., cost their more opulent neighbours. I need only, as an illustration, allude to the fact of water being taken out of ditches containing "all manner of filth," and used for domestic cleansing and washing. The sudden evaporation from the whole of a house floor washed with foul water is capable of producing instant disease in the family, and the same may be stated of the steam from washing and drying linens.

A proper water supply is indispensably necessary to the sanitary improvement of Newbury ; and, as compared with the present cost of water, it would be a great pecuniary economy.

Fires, and Means of extinguishing them.—On this point, materially connected with the water supply, I received some evidence from Mr. Beckhuson, who said,—

"The buildings in Newbury are generally insured. The houses are chiefly brick. I think that among the older tenements a great portion of the interior divisions are wood, so that if a fire were to

break out the whole interior would go down. I should say that the newer buildings are divided with brick walls. The interior construction does not affect the rate of insurance. There is not much property of a hazardous nature. The corn-mills are special contracts at 7*s.* per cent. or more.

"There are two fire-engines; one belongs to the Commissioners, and the other to the Royal Exchange Assurance Office. They are good useable engines, neither of the best nor the worst kind. We depend upon the supply of water from pumps in the neighbourhood. I think the pumps would keep them well supplied. I have lived in Newbury twelve or thirteen years, and can only call to mind one fire. I do not know the amount of damage, but I think 300*l.* or 400*l.*

"George Dean, the superintendent of the night police, is superintendent of the town engine. His salary is 2*l.* per annum from the Commissioners. No other person is paid. There is always a sufficient number of volunteer assistants. The engine is taken out four times a year, and the buckets and hose are kept in an efficient state."

State of the Lodging-houses.—I visited a considerable number of these houses at night, after the inmates had retired to rest, and found them generally in a similar state to those in other towns so often brought before your Honourable Board. In them is concentrated everything that is degrading to humanity,—the dishonest, the impure, the idle,—who prey upon society during the day, and in these places dispose of their plunder, or collections obtained from mistaken benevolence, in exchange frequently for better food than the industrious inhabitants can procure. The atmosphere of the bedrooms is generally most pestilential, from the number of inmates and the foul state of their persons and clothing. They mostly sleep in a state of nudity, and indiscriminate intercourse between the sexes is common. It cannot be wondered at that disease is engendered in such places, and spread among the peaceable and settled inhabitants of the town.

I was informed that the lodging-houses in Newbury are occasionally very much crowded; and the arrangement of the beds in most of them indicated that such was the case; but at the time of my visit there were fewer inmates than usual.

North Croft-lane, James Emmans, keeper.—The house contains five rooms upstairs and two below, but they are all very small; and when the seventeen beds which they contain are occupied by only two persons each, there will not be a room in the house affording more than one third the breathing space necessary for healthy existence. If, as physicians state, an adult ought to have 500 cubic feet of

air for breathing during the night, what must be the consequence of eight persons in a small room, with only 73 cubic feet of free space for each individual? In another room in the same house, the beds being only partly full, there was a space equal to 146 cubic feet each; but if there had been two persons in each bed, the quantity of air would have been reduced to 97 cubic feet each. In another room there was 161 cubic feet, and in the next 169 cubic feet.

The accommodation at the Tiger, kept by Wm. Morgan, appears to be of a superior description. He provides for two classes of lodgers, one paying 3*d.* per night each person, and the other 8*d.* There are eleven beds of the former class, and six of the latter. The rooms were much larger, and the accommodation better, than in the house previously described.

The City, James Clarke, keeper, has two houses, containing together three bedrooms, with eleven beds. The rooms are very low, and one of them, with two persons to each bed, would only afford 80 cubic feet of air to each person. The keeper pointed out where a privy drained through the house wall, and I saw the liquid ordure standing on the floor.

In the same part of the town is another house, kept by James Salter of the Dog and Bull, but the lodging-house is separate from the public-house. In two rooms there were five beds; four of these contained each a man and a woman, and the last two children. One room afforded 86 cubic feet of air to each individual, and the other only 74 cubic feet.

I visited some other of these lodging-houses, but need not lengthen this Report by a description of them. Sufficient, I trust, has been said to convince the local authorities of the great influence such houses have upon the health and morality of the town, and of the necessity for public arrangements as to the number of lodgers to be admitted into each room, the separation of the sexes, and the cleanliness of the persons and clothing of the lodgers, and of the rooms and bedding.

Nuisances.—The authorities in Newbury have tried the powers of the Nuisances Removal Act, and having found it adequate only to the temporary abatement of some superficial sanitary evils, but not for their prevention, have ceased to put it into operation. Mr. *Alfred Milsom* says in his evidence,—

"I am superintendent of police in Newbury. There was a Sanitary Committee of the Town Council twelve months ago. They have not met lately. I acted under them with respect to

nuisances. I went to look at nuisances frequently. I took notices to some of the parties who had caused nuisances; such nuisances were chiefly bad gutters in the yards, and sometimes privies overflowing. There was an alteration, and I do not know an instance in which there was not an improvement made. I think that, in many instances, the people could not remove the nuisances so as to be permanently right. I have been round the town this week with you, and those gentlemen who accompanied you. I have seen nuisances in the same places and of the same nature, but in a slighter degree than they were twelve months ago.

"The town was in a bad state when the Committee began to put the Nuisances Act into operation. I have not any book into which I enter those nuisances. Nuisances have been removed under that Act, but the Act has not been sufficient to prevent their re-appearance."

ROADS AND SURFACE CLEANSING.—The paving and cleansing of the town is under the jurisdiction of the Commissioners; and, so far as the public streets are concerned, they are entitled to credit for the proper discharge of their duties.

The great sanitary evils of Newbury all lie beyond the jurisdiction of the Commissioners. I have shown this to be the case with reference to house and court drainage, and water supply; it is not less so as respects the pavement and systematic cleansing of private roads, bye-places, and courtyards, most of which are in a very defective condition.

As to the public pavements and cleansing, Mr. *Beckhuson* says,—

"The Commissioners pay for paving sometimes by contract and sometimes by the day. The length of public highways in the borough is about 3,926 yards. York and Blue Pennant flags are used, and cost 8¾*d.* per square foot for material and labour.

"Hard gravel is very abundant and very good. It costs about one halfpenny per cubic yard, delivered broken and screened ready for use. No public carriage-ways are paved with pebbles or squares; they are Macadamized with a superior kind of gravel, costing about 8*s.* 6*d.* per cubic yard. Pebbles are used for side gutters, and some of the footways have a row of flagstones, and the remainder pebbles. They are also used for gateways and many private courtyards. They cost, with labour, 1*s.* 3*d.* per superficial yard. No other materials are used. We have no asphaltum or wood pavement.

"The Commissioners are not restricted to the poor rates valuation. The rate is now at one-third of the supposed annual value. It would not, therefore, be fair to say that the Commissioners collect 2*s.* and 2*s.* 6*d.* in the pound. Assuming the rates to be made on the same valuation as the poor rate assessment, they only collect 7*d.* in the pound for lighting, and 11*d.* for paving, &c."

Mr. *Beckhuson* afterwards put in a statement of the average expenditure as follows:

Paving Rate.—Average of 6 years, 1845 to 1851, inclusive :—

	£	s.	d.
Cleansing and watering	168	11	3
Repairs	72	0	1
New paving	46	16	2
*New works	113	17	3
†Interest on bonds	178	2	3
Sundries, including salaries, stationery, property tax, law charges, &c., &c.	63	0	8
Total average per year expended on paving account	£642	7	8

Altogether this forms a considerable average charge for only two and a quarter miles of road ; but on examination it appears that the amount for drainage is about equal to paving and the repairs together,—the cleansing and watering greater than either, and more than one fourth of the whole sum is interest on borrowed money.

State of the Burial Grounds.—The *churchyard* is surrounded with buildings, and is undoubtedly in a crowded state, and unfit for further interments, except in very special cases. The ground has been already nearly closed by the rector, voluntarily, with the sanction of the Bishop ; and there have been trenches or gutters cut as drains round the church, evidently to protect the foundations of the fabric. These give an unsightly and disordered appearance to the burial-ground ; and I observed numerous bones which had been disturbed during the operations.

Much was said during the inquiry respecting this disturbance of the surface of the churchyard ; but I find, by the 40th clause of the Newbury Cemetery Act, 1847, that the incumbent, with the concurrence of the churchwardens, and sanction of the Bishop, was specially empowered by the Legislature to do all that has been done, and much more, if it should be thought necessary to prevent injury to the church. At the time of my inquiry Dr. Binney was from home, and I had therefore to obtain a return from him as to the number of interments, &c. In his note, accompanying the return, he says,—

"As to bones, for half a century past it has been scarcely possible to open a new grave without turning up quantities, which were frequently found lying loose near the surface, and which I

* N.B. In the years 1850 and 1851, 241*l.* 12*s.* 6*d.* and 297*l.* 7*s.* 5*d.* were expended in the new drainage.

† Property tax, 5*l.* 16*s.* 6*d.*, is paid on this; and the difference between the 178*l.* 2*s.* 3*d.* and that is outstanding.

from time to time directed to be buried as they could be collected together."

The return is as follows :—

"*May* 20*th* 1851.

"Area of churchyard, exclusive of the ground on which the church stands, 116 poles. Annual burials therein, upon an average the last twenty years, 117.

"The above statement is according to admeasurement, made for the express purpose, and the best information I can obtain.

"H. Binney, D.C.L.,
"*Rector of Newbury, Berks.*"

It is right to mention that there is water in the churchyard at from 6 to 7 feet deep. Decomposition is much slower in damp soil than in dry, and therefore such ground would sooner be saturated with organic matter. According to Dr. Binney's statement, however, the ground was full fifty years since, and probably long before that time.

Reckoning the graves to be set out at 7 feet long and 3 feet wide, the area would be equal to 1,505 graves ; but according to the return there have been 2,340 interments within the last twenty years. With ground so damp, and already surcharged with decaying mortality, my experience convinces me that bodies would not be entirely decomposed in twenty years. From the facts, then, I am brought to the conclusion that a layer and a half of human bodies are now decomposing in the churchyard, and that further interments could not take place with safety. It may be that some graves have not been opened for more than twenty years, but this only involves the inference that others have been opened two or three times during that period

The *Baptist burial-ground* has been used probably a century, and appears to be quite full. The area is only equal to 104 graves ; and within the last 20 years there have been 87 interments.

In the *Independent chapel-yard,* and close by it, there are 30 houses, with very bad drainage. The area is only 1,280 square feet, equal to 61 graves, and there appear to have been 200 interments in the last 20 years. Mr. Toomer, in communicating to me the number of interments, says,—

"There has been some ground purchased lately at the back of the chapel for a school, &c., and part of it may, probably, be added to the burial-ground, at some future day."

If schools should be erected upon part of this ground, I think it very undesirable that the remainder, quite contiguous to the room in which many young persons will spend a large portion of their time, should be converted into a burial-ground.

As to the *Wesleyan burial-ground*, I received the following note,—

"Sir, "*Newbury, 3d May* 1851.

"In reply to your inquiries in reference to the burial-ground connected with the Wesleyan chapel, the area is 3,420 feet, exclusive of the building. It has only been open about fourteen years, and the number of interments has been about sixty, equal to about four and a quarter per year.

"Yours respectfully,

"*W. Lee, Esq.*" (Signed) "John H. Mann."

This area would give 163 graves, and therefore it cannot be said that the Wesleyan burial-ground is in a crowded state.

Presbyterian burial-ground.—My minute of examination is, that only a small portion of ground had been used for interments, and that appeared quite full.

Mr. *Thomas Crofts*, the chapel secretary, after giving the dimensions of the ground, says,—

"The number of interments within the last twenty years (1831-1851) has been 38; 19 of which have been *within* the chapel, and 19 *without*, in the back ground.

"The larger portion of the front ground was purchased by the Trustees of the chapel in 1839, and at that time was garden-ground. No interments have hitherto taken place therein, and but few, if any, have taken place in the portion previously to 1839 attached to the chapel; so that, if required, the whole of this front ground is available for the purpose of interment. The back and side grounds are considered to be well filled with corpses, as also the lobby and aisles of the chapel, as interments have taken place therein from the erection of the chapel in 1699; and the number of attendants was formerly much greater than now, or than for the last twenty years."

The *Friends burial-ground* has some cottages belonging to the Society at a distance of about five yards, and there is a dead well or cesspool close to the houses. The burial-ground in front of these cottages is cultivated as a garden, and no judgment can be formed as to its condition from a personal examination. From a return made by Mr. Joseph Rand it appears, that the area is 2,880 square feet, equal to 137 graves; and the number of interments in the last twenty years 100. He says, the graves are dug 7 feet deep. With houses so closely situated, I do not think this ground ought to continue to be used for burials.

The *Primitive Methodist burial-ground* is 45 yards long and 13 yards wide. A row of houses back immediately against it, and the minister's house fronts directly into the burial-ground.

I received the following communication as to this place :—

" Sir, " *Newbury*, 14*th May* 1851.

" I embrace the earliest opportunity of informing you, that the chapel belonging to the Primitive Methodist Connexion was erected in the year 1824, by a party who separated from the Wesleyan Methodists, and was purchased by us in 1837.

" The area of the burial-ground, exclusive of building, is 45 yards in length, and 13 yards in width. The number interred during the last fourteen years is 69. The number interred previous to our purchasing it cannot be ascertained ; I should say about the same ratio.

" I am, &c.,

" *Wm. Lee, Esq.*" " Saml. Wilshaw."

The number of graves which this ground would furnish is 250, and the interments since 1824, at " the same ratio" as the last fourteen years, would make a total of 134. It cannot be said, therefore, that this ground is more than about half full. The close proximity of houses is a strong objection to its continued use as a burial-ground

The *Newbury Cemetery* is the property of a joint-stock company, incorporated by Act of Parliament. The area is 4 acres 1 rood 33 perches. The soil is 4 feet deep of black mould, and then gravel. The graves are dry to a great depth. There are two chapels, and one half the ground is consecrated. The cemetery had only been opened about twelve months at the time of my inquiry. The fees are the same as at the Reading Cemetery. The capital of the company is 4,000*l.* in 800 shares of 5*l.* each.

I received some important evidence as to the cemetery, and interments in the town generally, from *Henry Godwin*, Esq., Solicitor, who said,—

" I am secretary to the Cemetery Company, incorporated by an Act of Parliament passed 10 & 11 Victoria, cap. 293. The short title is " The Newbury Cemetery Act, 1847."

" The cemetery was opened on Easter Monday 1850. There have been about 72 interments since that time ; only three of these have been in private vaults, and three in brick graves.

" None of the burial-grounds in Newbury have been legally closed, except the churchyard ; it has been closed under the 40th section of the Cemetery Act, except for private vaults. Interments are still continued within the church of Newbury. I know of three within twelve months ; they are in vaults that previously existed. There is no provision in the Act for the transference of interments in vaults from the church to the cemetery. I should think it would be lawful to construct new brick graves in the churchyard. The closing of the churchyard was only for twelve months certain.

" The Act does not fix a scale of fees for interments, but does secure a very heavy payment to the rector for each interment,

namely, 5*s.* for common interments, and 42*s.* for interments in a vault, catacomb, or brick grave. He did not receive so much for common interments in the churchyard, but he received more for interments in vaults and brick graves than he will at the cemetery; his charges in the former being unlimited, and in the latter restricted to 42*s.* The present arrangement does not operate to the advantage of the public, because they always have to pay the high fee of 5*s.* to the rector, which is a great deal more than many of them are able to pay. It does not operate to the advantage of the company, because they have a powerful opposition in the churchyard, which secures the more remunerative interments. It operates to the advantage of the rector, because the closing of the churchyard for common burials drives them to the cemetery, and secures to the rector larger fees than he ever received for the interments of that class in the churchyard, while he still retains the more expensive interments, without any restriction whatever as to charge.

"There being no power to close the dissenting burial-grounds, the objections to that mode of interment are not removed. The Act provides no remedy for interments in the most densely populated parts of the town in dissenting burial-grounds.

"I see no probability, under present powers and arrangements, that the cemetery will fulfil the objects of its promoters, either in a sanitary or pecuniary point of view. Of course, the interment of some in the cemetery instead of the town is an advantage as far as it goes, but I am confident that the evil can only be remedied by the entire prohibition of the town interments."

In the event of the burial-grounds within the town being entirely closed, I think it would be necessary that the question of fees should be seriously considered, especially with reference to the interments of the poor, which are by far the greater portion of the whole.

Watching, Lighting, and Gas.—The watching of the town is under the direction of the Watch Committee of the Town Council. The lighting is in the hands of the Commissioners. Mr. *Robert Martin* said,—

"I am one of the Town Council, and on the Watch Committee. There is a superintendent and one man during the day; and for the night we have the superintendent and four men. In the winter months we have two extra men, from Michaelmas to Lady-day. We levy watch rates, amounting to about 8*d.* per annum in the pound, assessed upon the poor rate valuation."

From the following evidence of Mr. *Beckhuson*, it appears that the gas company are lessees under the Commissioners. The company itself is not incorporated. He says,—

"There are 81 public lamps in Newbury; they belong to the gas company. The price for lighting, removing, repairing, cleansing, extinguishing, gas, and the use of lamps, is limited to 3*l.* 15*s.* per lamp. The season is from July to May, 10 months, except at

full moon. Ordinarily the lamps are lit half an hour before sunset; one-third the number is put out at 11 o'clock, and the remainder half an hour before sunrise.

"The company pays rent to the Commissioners on a lease for the land and buildings, but not for the machinery and apparatus. The lease to the company is dated 29th December 1847, and the term is 20 years and 6 months from the 25th December 1849. The exclusive supply of gas for the public lamps is conveyed to the company by the Commissioners, and the Commissioners are under covenant not to permit any other company to lay pipes; and to take the plant and works at the end of the term at a valuation.

"The price charged for gas consumed on private premises is not limited in the lease. Gas is not used to a great extent in private houses in Newbury; the consumption is by meter. There is a special contract at a lower price with the railway company. There is a station meter at the works. The gas pipes extend into the parish of Speen. The aggregate population within reach of the gas pipes is about 9,000. The quantity manufactured is now about 3,000,000 cubic feet per annum, and it is increasing.

"Radford coal is used for gas making at 15*s.* per ton delivered. House fire coal costs 24*s.* per ton. West of England and Newcastle, 30*s.* per ton. The company sells coke at 5*d.* per bushel. They would like to be able to sell the tar. They have at least 50,000 gallons, but cannot tell the quantity; they would enter into a contract to sell all they have, and all they may make at 1*d.* per gallon. The spent lime will sell sometimes at 2*d.* per bushel to the farmers. They do not know what to do with the ammonia water.

"Mr. Graham is secretary to the company. The capital is 5,000*l.* expended for the apparatus alone. The company divides 5 per cent. profit."

Mr. Beckhuson subsequently put in an account of the average annual expenditure on the lighting account of the Commissioners for six years. The bonds mentioned are for money to take to the gas plant, and on new lease in 1849. The bonds, except two, amounting to 288*l.* 0*s.* 9*d.*, have been paid off, and the Commissioners had at the commencement of the year 54*l.* 5*s.* 8*d.* in the bank on the lighting account, besides 154*l.* uncollected rate.

	£	*s.*	*d.*
Lighting - - -	266	1	8
Interest on bonds - - -	52	19	0
Salaries, &c. - - -	21	1	1
Sundries - - - -	37	5	8
Per annum -	£ 377	7	5

Local Acts of Parliament.—I have already said sufficient of the Newbury Cemetery Act, 1847 (11 & 12 Vict. c. 293), under the head "State of the Burial Grounds."

The Local Improvement Act (6 Geo. 4. sess. 1825) requires a brief notice. It has been stated hereinbefore, that the Commissioners are more than 100 in number. Among the clauses relating to the provisions of the Public Health Act, I find that the Commissioners are empowered to levy annually not exceeding 2*s.* in the pound for watching and lighting; and not exceeding 2*s.* 6*d.* in the pound for "paving, widening, amending, repairing, cleansing, watering, improving, extending, and regulating, the said markets, streets, squares, ways, lanes, footways, public passages and places." Houses under 5*l.* a year are not to be assessed to the occupiers. Lands, tithes, and buildings connected with husbandry are to be assessed at half their value. Rates for houses, &c. under 10*l.* are to be recovered from the owners.

The Commissioners are empowered to repair and pave the streets and public places, and may make drains, sewers, &c. "for conveying water off, and from the said markets, streets, squares, ways, lanes, and other public passages and places." They have no jurisdiction over the drainage of courtyards or buildings; they can only convey the *surface water* from streets and *public places*. They may compel the owners of new streets to pave or compound, but their powers do not extend to the pavement of courts. The Act is not to be "construed to extend to any ashes, cinders, dust, *dirt, manure, filth, soil, dung, or rubbish* which any of the inhabitants of the said borough and town, and tithing or hamlet respectively, shall have occasion and think fit to *preserve and keep within their own respective houses*, yards, gardens, and premises."

It must be obvious that sanitary considerations were unknown to the framers of the Act.

The Commissioners are empowered to provide fire engines, and pipes and buckets for working the same.

The Commissioners are empowered to sink or make any wells or pumps for watering the public streets and places; but beyond this there is nothing in the Act connected with the vital question of water supply.

Recapitulation and Conclusions.—The preceding Report embraces a variety of topics connected with the present sanitary condition of Newbury, and has extended over more space than I had intended, although I have omitted much of what came before me during the inquiry. It remains for me to collect the most important facts in the form of con-

clusions and suggestions for the consideration of your Honourable Board, and to append such remedial suggestions for the future as the very limited data at my disposal will admit of.

It has been shown herein :—

I. That the borough of Newbury is a "populous place," such as was contemplated by the preamble of the Public Health Act.

II. That the rates of mortality in Newbury are very high, and have been so for many years past, and that there is much preventible disease and mortality among the inhabitants at all periods of life.

III. That this large amount of preventible disease and death is not only proved by the testimony of local medical practitioners, but becomes strikingly apparent by statistical comparison and contrast with differently conditioned districts throughout the country, with other districts in the same county, and even with the whole registration district of Newbury, in which the excessive mortality of the borough is still included.

IV. That the existing powers of the local authorities, comprising the Town Council and the Improvement Commissioners, are utterly inadequate for the sanitary improvement of the town.

V. That the Local Act does not provide for any water-supply to the inhabitants, nor for the drainage of any houses or other buildings, the abolition of cesspools, the pavement of courtyards, nor for many other important and essential requisites of good health among the inhabitants.

VI. That a large proportion of the inhabitants live in narrow courts and alleys admitting very little access of pure air, and that the untrapped privy-vaults, the cesspools, defective water-supply, and bad pavement of such places, combined with the general want of thorough drainage of the site of the town, are sufficient causes of the existing disease and mortality.

VII. That the common lodging-houses of the town are in a state incompatible with health, decency, or morality, and require to be placed under strict regulations.

VIII. That interments take place in the town in places where interments ought not to be permitted, and cannot be continued without endangering the public health.

IX. That the ascertained loss from excessive sickness, funerals in excess, and lost labour from preventible causes, amounts, at the lowest estimate, to a much larger sum per annum than would have to be paid for the most efficient works for improving the sanitary condition of the town.

X. That the cesspool system in lieu of drainage, and wells, pumps, cisterns, butts, and other expedients for obtaining water, are more costly to the inhabitants, irrespective of all sanitary considerations, than the most efficient public works, for a proper supply of pure water by taps in the houses, and for the immediate removal in underground drains of all offensive matter from the vicinity of the houses.

XI. That the geological and geographical character of the district, the climate, and the avocations of the inhabitants, are all naturally favourable to health.

XII. That the health of the town would be much improved,

a. By a constant supply of pure water, conducted into every house in the town, and sufficient for all sanitary purposes, public and private.

b. By a system of drainage of the site of the town, including the houses and other buildings, and the courts ; by the destruction of all cesspools, and underground privy vaults ; the abolition of all privies as at present constructed, and the substitution of soil pan apparatus with water laid on, so that the soil and refuse may be immediately conveyed away from the town.

c. By improved pavement of courts and private premises.

d. By systematic cleansing, and removal of all decomposing animal and vegetable matter, from the surface of streets and courts with hose-pipe and jets of water.

XIII. That the Local Improvement Act contains some provisions which it is desirable should be continued in force, and vested in the Town Council as the Local Board of Health.

XIV. That as the Public Health Act contains powers and provisions which would enable the Town Council to remedy the sanitary evils existing in the borough, its application would be highly beneficial to the inhabitants.

WHEREUPON I RECOMMEND :—

1. That the Public Health Act, 1848, except the section numbered 50 in the copies of that Act, printed by Her

Majesty's Printers, should be applied to the Borough of Newbury, in the County of Berks.

2. That the whole of such powers as are given to the Commissioners acting for the Borough of Newbury by the Act of Parliament herein-before recited, "for lighting, watching, paving, cleansing, and improving the streets, highways, and places within the borough, town, and parish of Newbury, and the tithing or hamlet of *Speenhamland*, in the parish of *Speen*, in the county of Berks," and are not inconsistent with the provisions of the Public Health Act, shall be vested exclusively in the Town Council of Newbury, as the Local Board of Health; but that such transference of powers shall not give to the said Town Council, as Local Board, any jurisdiction under the said Local Act within the hamlet or tithing of *Speenhamland*.

I have the honour to be,
My Lords and Gentlemen,
Your most obedient Servant,
WILLIAM LEE,
Superintending Inspector.

The General Board of Health,
&c. &c. &c.

APPENDICES.

APPENDIX A.

Remedial Suggestions.

The agent exerting the most important influence upon the health of communities, for good or for evil, is water. When in superabundance and stagnant, as in marshy districts, it produces ague and intermittent and low fevers. When the subsoil only of a town is saturated, the foundations and walls of buildings become damp, the air is too moist, and the inhabitants suffer from rheumatism, and other diseases, which, if they do not frequently destroy life in a direct manner, undermine the constitution, so that the victims fall an easy prey to other acute disorders. When mixed in open ditches, defective sewers, cesspools, privy vaults, and crowded graveyards, with decomposing animal and vegetable matters, water gives vitality to the most mortal poisons, entering into chemical solution with the products of corruption, facilitating their assumption of the gaseous form, and affording freedom for the discharge of such gases into the air which the inhabitants contiguous are compelled to breathe. The offensiveness of a defective surface channel on the side of any street in hot weather, notwithstanding the freedom with which the foul gases can escape in every direction, is an illustration with which every adult will be acquainted, as being more offensive than the most fœtid substance in a dry state. It is from the admixture of water with organic decomposition, and the inhalation of the gases produced, that many of the most malignant and fatal diseases have their origin.

It will have been observed, that under all these circumstances, the water and decaying matter are stagnant. Human beings existing, or rather perishing, within the reach of such influences, constitute, as the case may be, a village, or town, or a large city, in a bad sanitary condition. I need not say that Newbury must be classed with such places. Nobody can deny the facts proved.

On the other hand, water *in motion*, properly applied, is the most efficient agent for securing good health, and may be called the basis of all sanitary improvement. A polluted stream, in motion, will become purified. Brooks, discoloured with peat, become clear; and the most feculent town refuse is comparatively inoffensive when diffused in cold running water. Perfect town drainage, however, goes a step farther than this, and proposes not

only to remove all surplus water from the subsoil, but to convey away, by the agency of running water, in properly constructed channels, all the refuse of houses and other buildings, privies, courtyards, and the surface of streets, &c., capable of being removed in water, before decomposition has liberated the noxious gases so destructive of life. The broom, and the shovel, and the cart, frequently aggravate, for a while, the nuisances they are intended to abate. Water acting by the simple law of gravitation is the cheapest and most efficient scavenger.

Perfect and economic town drainage can only be effected as a systematic public work; and a proper supply of water is essential to efficient and economic drainage. The two are parts of the same system.

The water supply ends at the domestic tap, from which the stream flows that is to carry, into the beginning of the drain, the refuse to be removed. With such a supply of water the house-drains require to be only a few inches in diameter; and, as the streams of drainage become united in their course, the augmented size of the drain necessary for the work can be accurately adjusted, so as to involve no needless outlay, and to admit of no deposit along its course to the final outlet.

Bearing in mind what I have stated as to the different effects of water, stagnant and in motion, I must add that a public water supply, without proper drainage, would be stagnation. It would be bringing water to act upon decaying filth *in the vicinity of houses;* and, that drains without a proper water supply, would only be elongated cesspools for decaying filth, in a state of stagnation, equally objectionable, and much more expensive, than the circular and square cesspools now in use.

Public combined works, for the supply of water and for drainage, could be constructed in Newbury for about the same money as would be required for main sewers alone without such a water supply, because without water they would require to be made so large that deposits could be removed by hand labour.

I need not say more generally on this subject; it will come under the consideration of the Town Council after the application of the Act. They will then have to judge and decide upon a question of momentous interest, both to the present inhabitants and to future generations.

As to the specific character of the water supply, the term PROPER, used in the Public Health Act, implies that it should be *pure*, *abundant*, *convenient*, and *cheap*. To be pure, it must be free from injurious admixture, or contamination from mineral or organic matter; to be abundant, the source from whence it is derived must yield sufficient for all public and private purposes, at all times, without stint; to be convenient, it must be conducted by pipes to all places where it will be required. There must be a tap constantly on in every house, courtyard, improved privy, in every stable or other place where injurious refuse is produced, and fire-plugs, or hydrants, at frequent intervals, in the streets; to be cheap, it must be supplied at such a price that the poorest of the inhabitants shall not feel the sum to be paid a grievance or a burden.

These fundamental principles of a proper water supply bring under consideration the quantity required, the source from whence it must be obtained, and the price at which it can be supplied, when the necessary works are completed.

The inhabitants of Newbury have, like other places without public works, been compelled injuriously to economize water, and will perhaps be surprised to learn that, in districts having a constant supply of good water, 100 gallons per house, per day, is drawn from the taps; equal, on the average, to 20 gallons per day for each individual of the population, for public and private purposes.

Water ought to be used with the same freedom in Newbury as elsewhere; and therefore I should recommend, that for food, for washing, cleansing, and other domestic purposes; for the immediate removal, before decomposition, of all house refuse, nightsoil, and other offensive and objectionable matters; for keeping in sweet and healthy action an efficient system of underground drainage; for effectual cleansing of the surface of the courts, streets, and public places, by hose, and jets of water; for extinguishing fires without the necessity of engines, and for watering the streets in summer by the same means; for inns, stables, and trading purposes; and for all other objects for which a water supply is needed, in order to secure the health, comfort, and convenience of the inhabitants,—not less than twenty gallons per day, for each individual of the population, should be provided.

Allowing for a slight increase of the present population, the quantity required would be 140,000 gallons per day.

It would, however, be a great acquisition to the inhabitants of Speenhamland, forming part of the town, if they could also be supplied with water from the same works. In that case the quantity required would be proportionately increased.

As to the source from whence this supply of water should be obtained, three localities and modes of supply have presented themselves for consideration. The difficulty is one of selection, arising from the very limited information at my disposal. I think it would be unwise if I were at present to adopt one or other of these, when more accurate data might show another to be preferable. I have no hesitation, however, in stating, of two out of the three localities, that from either of them alone much more water could be obtained than would ever be required to supply the town of Newbury.

As to the price of water to the inhabitants, when the works are completed, I have considered the matter well, and am guided by other places of similar population and under similar circumstances, where works are in operation; and have no doubt that a constant supply of good water can be given, so that the charge for any cottage-house shall not exceed the sum of *three halfpence* per week. This would be a great saving, even as compared with the real cost of water, to the poor inhabitants at present, as is fully shown in the body of this Report.

With such a supply of water, the drainage of the town, as I have already indicated, would be very simple and very economical. The largest outfall drain for the sanitary sewage would not

require to be larger than 18 inches diameter; the upper extremities of the public drains, about 6 inches diameter; and the house drains would not, in any instance, exceed 4 inches diameter. The whole system would consist of earthenware pipes, and the charge upon a cottage-house would be about the same as for water, being probably less than the cost of the cesspool system.

Another important work would be the pavement of the court-yards and other places now unpaved, which might be done with a prepared concrete of gas-tar and ashes, &c., at a cost of 9*d.* or 10*d.* per square yard, so as to form a smooth durable surface, impervious to moisture.

With such a supply of water, a complete system of drainage, and smooth impervious pavement, the whole surface of the town, including the streets, public places, and courtyards, could be washed at frequent intervals, and kept quite clean, by means of flexible hose and jets of water, for the average sum now paid by the Commissioners under the head "cleansing and watering."

I have only to add, that the Town Council, as Local Board, would be able, with the consent of the General Board, to borrow, upon the security of the rates, the sums necessary for the construction of all the permanent works, public and private, required for the sanitary improvement of the town; repaying the same by equal annual instalments of principal and interest in a period not exceeding thirty years. The amounts in each case would have to be charged upon the district or property benefited by the expenditure, so that one part of the borough could not be rated for the improvement of another part, nor one owner or occupier for the improvement of his neighbour's property.

These remarks upon the most prominent improvements which appear to be required in Newbury are intended as suggestions only. As such they will be received by the Town Council and the inhabitants, and adopted or rejected, as may be thought best. I urge merely that they should have serious consideration. Some of my views, as to mere details, might be modified by a more careful professional examination of the district, and with proper plans and levels. The principles laid down, however, are such as I think will not be controverted; and, in bringing them before the General Board and the Town Council of Newbury, I have been guided by the same feeling which, I cannot doubt, will actuate them,—a desire to benefit the inhabitants of the borough.

WM. LEE.

APPENDIX B.

Borough of Newbury.

Tabular List of Water Supply and Privy Accommodation in Courtyards of Bartholomew-street and the City.

Name of place.	Number of tenements.	Number of inhabitants.	How supplied with water.	Number of privies.
Elkins's yard	3	7	1 p*	1
Dibby's	7	40	1 p	2
R. Stillman's	2	10	1 p	1
Bendman's	6	9	1 p	2
Chubb's	8	21	1 p	1
Holmes's	4	18	—	2
R. Stillman's	4	14	1 p	1
Woodcock's	7	27	1 p	2
Wiggins's	3	6	1 p	4
Griffin's	4	10		
Nutley's	7	13		
L. Lewis's	12	36	1 p	3
Wells's	4	7	1 p	2
Fidler's	2	6		
Dredge's	3	8	1 p	1
Moss's	5	20	1 p	1
Toome's	6	13	1 p	1
Levi's	4	13	1 w	1
Flint's	—	8	1 p	1
Ryott's	2	—	1 w	1
T. Higgs's	1	3		1
Flint's	2	6	1 p	1
Edgerly's	5	18	1 w	2
Ryott's	3	16	1 w	—
Carter's	3	12		1
Palmer's executors	4	13	—	1
W. Palmer's	2	11	1 p	1
Clayton's	5	22	1 w	2
City Arms	3	4	1 p	1
Joyce's	2	6	1 p	—
Whiting's	3	13	—	1
Thos. Phillips's	3	12	—	1
Chubb's	2	4	—	—
Foster's	1	6	—	1
Whiting's	3	12	—	1
Ryott's	3	12	1	1
Chubb's	5	26	—	1
Messenger's	4	17	—	—
Brown's	2	9	—	1
Clayton's	3	12	—	1
Phillips's	1	4	—	1
Graham's	1	3	—	1

* r signifies Pump, w Well.

Name of place.	Number of tenements	Number of inhabitants	How supplied with water.	Number of privies.
Ryott's	2	8	—	—
Clayton's	1	4	—	1
Chubb's	5	23	1 W	1
Hill's	2	2	—	1
Stillman's	1	7	—	—
Clayton's	1	7	—	—
Messenger's	1	3	—	—
Whiting's	1	8	—	—
Butler's	1	2	—	—
Ryott's	1	3	—	—
Graham's	1	4	—	—
Chubb's	3	3	—	—
Levi's	2	5	—	—
Griffin's	2	7	—	—
Whiting's	2	12	—	—
Stillman's	1	6	—	—
Clayton's	1	—	—	—
Lynel's	1	5	—	1
Prudon's	1	2	—	1
W. Dredge's	2	8	—	—
Newton's				
Townsend's	5	27	—	1
Messenger's	1	8	1 W	1
Chubb's	9	34	2 W	2
Graham's	5	27	—	—
Fidler's	2	6		
Middleton's	4	12	1 P	2
White's	1	2		
Dismore's	4	13	1 P	1
W. Ayres's	4	20	1 P	1
W. Golding's	13	51	1 P	3
Gibbs's	7	22	1 P	2
Patey and Co.'s	14	34	1 P	3
Millar's	7	26	1 P	1
Money's	3	7	1 P	1
Knibbs's	1	3	—	—
Farmer's	3	11	1 P	1
Witherell's	10	27	1 P	2
Messenger's	3	15	1 P	2
Sargent's	3	22	1 P	2
Challis's	4	11	1 P	1
Wells and Adnam's	3	15	1 P	1
Fidler's	5	28	1 P	2
W. Kimber's	10	38	1 P	2
Sargent's	5	27	1 P	3
Fidler's	3	11	1 P	3
Total	315	1,143	46	89

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